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Teacher Professional Knowledge and Development for Reflective and Inclusive Practices

Edited by
Ismail Hussein Amzat and
Nena Padilla-Valdez



Teacher Professional Knowledge and Development for Reflective and Inclusive Practices

This book brings together the practice of reflective teaching and the knowledge of inclusive practices in the context of teacher education and continuing professional development. It is a call to leverage reflective teaching for inclusive practices. The first part of the book provides an overview of what constitutes reflective practice in the 21st century and how teachers can become reflective practitioners. It also discusses how teacher professional development can be enhanced for reflective teaching practice. The second part of the book deals with teachers' knowledge development in order to create inclusive teaching and learning environments. It highlights the need for a responsive teaching climate, intercultural competency, pedagogical change, and professional literacy. A reflective inclusive teacher is likely to anticipate the multiple needs of diverse learners in pluralistic settings, thus ensuring student success. This book will enhance the efforts of teacher educators and teaching professionals in building a culture of reflective and inclusive teaching practice in the classroom.

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Ismail Hussein Amzat

Preface

This book, *Teacher Professional Knowledge and Development for Reflective and Inclusive Practices*, has been produced to improve teacher professional knowledge and skills surrounding classroom inclusiveness while also reflecting on best practices for teaching and the development of effective instructional tools that fit a diverse range of learners.

Given the diversity of what is happening in the 21st-century classroom and the complexity involved in teaching and learning, the teaching profession is no longer what it used to be. It has changed dramatically, while also continuously requiring multiple skills. These include broad knowledge, effective methodologies, and teaching strategies spanning multiple dimensions. The pace of change is also rapid, resulting in teacher's today requiring different skills to the ones even yesterday. Increased attention and focus is being placed on what lessons are being taught in the classroom, what students have learned, and how they have been taught.

Teacher-classroom reflection and the spirit of continuous improvement are considered to be part of the art of knowledge development and an example of good professional practice. It is through personal or peer-reflective practices that teachers are able to reflect on their teaching through different lenses and comprehend how they can make a great difference in pupil's lives while ensuring no child is left behind. Enhanced teacher knowledge of inclusion progresses instructional practice and improves student learning and growth. By embarking on a journey to become an inclusive teacher or practitioner, this book advocates that teaching reflection and classroom practices can render a great help for teachers to examine what their students already know, what they need to know, and how to approach each student, their backgrounds, and learning styles. It also helps them determine what lessons to be taught, methods to be used, and how to teach.

There is no doubt that in the coming years, there will be an even higher demand and need for teacher personal reflection, inclusive knowledge, and development of skills to improve teaching quality in order for teachers to become effective at all levels and to be well rounded. The teacher reflective practice is seen as a navigation tool to deal with unforeseen classroom challenges and is to be documented in journals of inclusive practitioners. *Teacher Professional*

Knowledge and Development for Reflective and Inclusive Practices contains two parts, with a series of unique chapters from the authors who are renowned in the fields of reflection, inclusion, child development, special education, management, psychology, and counseling.

Part I of this book presents reflective practices in the 21st century. Chapter 1 “Reflective Practices in the 21st Century: Movement from 3Rs to 4Cs in the Teaching Profession” by Grace Chibiko Offorma and Carol Adaku Obiefuna advocates that there are contradictions between beliefs and practices, myths and realities. The authors reveal that the skills used in the 3Rs (reading, writing, and arithmetic) place more emphasis on memorization and regurgitation of knowledge (rote learning) than verification, critiquing, restructuring, and testing the intuitive understanding of a phenomenon (interactive learning). Thus the chapter dwells on reflective practices in teacher production, typologies of reflective practices, 21st-century skills of critical thinking, communication, collaboration, and creativity in teaching and learning.

Chapter 2, “Reflections on Being and Becoming in Continuous Teacher Professional Development (CTPD)” by Victor J. Pitsoe and Matsephe M. Letseka, argues philosophically and demonstrates that the works of Plato and Heidegger are fundamental to the social construction of professional being and becoming. The authors argue that the social construction of professional being and becoming is both a philosophical problem and a policy imperative in the professional improvement of teachers. Chapter 3 “Reflective Teacher Preparation in the Context of Inclusive Classroom” by Elizabeth Kuruvilla states that the diversity of the 21st century has brought changes to the classroom by not only accommodating students with different abilities, cultural backgrounds, learning styles, and needs but also affecting the professional identity and responsibilities of teachers. The author argues that teachers are expected to be more reflective; consequently, they gain a better understanding of their teaching practices through individual reflection, reflection from colleagues, and reflection from a wider circle.

Chapter 4, “A Reflective Practice Approach: Reimagining Teachers’ Continuing Professional Development” by Matshidiso Joyce Taole and A. S. Mawela, argues that the process of reflective teaching is a process of teacher professional development. In the absence of systematic reflective teaching, teacher professional development becomes impossible. The authors assure that teachers continuing professional development, which advocates reflective practices, will improve student learning and support a strong autonomous teaching profession. Chapter 5, “Developing Critical Reflection: Promise and Potential for Enhancing Teachers’ Learning and Professional Practice” by Govinda Ishwar Lingam and Narsamma Lingam, explores the value of high-quality, critical-reflective professional practices by teachers in the changing educational environment of the 21st century. The authors advocate that the development of critical reflective skills of teachers serves as an invaluable potential to contribute beneficially to the profession and as core to their repertoire of skills.

Chapter 6 ‘Erasing the Blind Spots: Reflective Teachers and Diverse Classrooms in the United States’ by Lynne Masel Walters, Martha R. Green, and

Timothy N. Walters, discusses classroom reflection and diversity in the United States. The authors opine that the United States is becoming a more diverse nation, thus teachers and teaching methods must align with the needs of the students, the nation, and the world at large. The authors argue that student success largely hinges upon how teachers conduct themselves. They also affirm that increased classroom diversity requires teachers to erase their cultural blind spots to ensure that all students are treated equally without prejudice. Chapter 7, “Principal Instructional Leadership Practice and Its Effect on Teachers’ Reflective Practices: Indicators for Best Classroom Practices” by Ismail Hussein Amzat, discusses the positive impact of instructional leadership or leaders on teacher reflections of their teachings. The chapter assures that serving the educational needs of students in today’s world requires a paradigm shift in the way schools are led and supervised, and necessitates a new instructional design in the way teaching and instruction are practiced and carried out in the classroom. The author argues that a principal’s instructional leadership practice and high-quality teaching are deemed important and necessary for learning effectiveness and student achievement.

Chapter 8, “Who Is the Best Teacher?: Reflections by KwaZulu-Natal Teachers, South Africa” by Sitwala Namwinji Imenda, discusses teacher reflective practice from a South African perspective. The author asserts that for a teacher in the 21st century, reflection is one of the most important tools available to ensure continued relevance, effectiveness, and survival in the teaching industry. The chapter presents results from a reflective activity involving 76 serving teachers from the KwaZulu-Natal Province, South Africa.

Chapter 9, “Teachers’ Reflective Practices within a Gulf Cooperation Council Context: Knowledge, Beliefs, and Challenges” by Michael H. Romanowski, Chris Diane Coughlin, and Nora Merouani, discusses the impact of standards-based and major educational reforms in Qatar that include imported professional teaching standards. The authors argue that critical reflection may be understood and appear differently in a Western context compared to a conservative Islamic context like many Middle Eastern countries. They illustrate empirical findings from focus group interviews with teacher’s engaging in critical reflection.

Part 2 of this book presents teachers’ knowledge in inclusive practices. Chapter 10, “Supporting In-Service Teachers’ of English Learners and Their Development of an Asset-Based Framework through Community Asset Maps and Oral Histories in the United States” by Felice Atesoglu Russell and Amanda Richey, discusses the challenges of in-service English teachers and their development in becoming assets in communities in the United States. The authors argue that as English learner students continue to grow in U.S. P–12 classrooms, teachers should be prepared to leverage on classroom diversity. Eventually, the authors reflect on the development and implementation of two assessments (community asset maps and oral histories) designed to support practicing teachers develop an asset-based framework. Chapter 11, “Empowering Culturally Foreign Teachers by Fostering Cultural Competence” by Lydia Barza, explores the requirements and skills of teacher quality in international education to cope

in different context and cultures. The chapter outlines best practices for empowering culturally competent educators teaching abroad and the author critically discusses two main perspectives on cultural competence training and their applicability to culturally foreign teachers.

Chapter 12, “Creating a Responsive Teaching Climate for Diversity and Inclusivity” by Matshidiso Joyce Taole and Patience Kelebogile Nkalane, discusses the complexity of education and its embodiment in a political, cultural, and economic context. The authors argue that teachers need to navigate in a political, cultural, and economic terrain to ensure that students receive education that will enable them to compete effectively with other students around the globe. Their chapter rests on the assumption that responsive teaching, diversity, and inclusion are fundamental to meet the needs of diverse students in the 21st century. Chapter 13 “Essential Technology Skills for 21st-Century Teacher Inclusive Strategies” by Byabazaire Yusuf, discusses the need for today’s educators to have adequate technological skills in order to serve the increasing number of students with learning disabilities. They refer to a pilot study of in-service postgraduate teachers on the implementation of inclusive strategies using group reflections. Here the findings share the experiences of in-service teachers in improving teacher professional knowledge through the development of reflective and inclusive practices.

Chapter 14, “Teachers’ Perceptions on Inclusive Education: The Effect of Knowledge and Experience” by Nataly Loizidou Ieridou, discusses how teachers can be empowered and gain positive attitudes toward inclusive education through pre-service and in-service training on special and inclusive education. The author suggests that teacher’s knowledge and experience regarding special education is directly related to teachers’ perceptions on inclusive education. Chapter 15, “A Resilience-Based Program to Promote Reflective and Inclusive Teaching Practices in Greece during Austerity” by Elias E. Kourkoutas, Angie Hart, Ulrike Graaf, and Wassilis Kassis, explores developing a program to improve reflective and inclusive practices in Greece during a period of austerity. The chapter presents the key epistemological assumptions and the theoretical background of a resilience-based program within Greek schools. Their qualitative evaluation shows significant improvement of teacher reflective and inclusive practices.

Chapter 16, ‘Promoting Cultural Responsiveness and Multicultural Competency through the Classroom Experience of Teachers in Hong Kong Schools’ by Ming-tak Hue, discusses teacher responsiveness to classroom inclusiveness in Hong Kong. The chapter examines the classroom experience of Hong Kong teachers in the promotion of ethnic minority education. It also explores ways to build culturally responsive classrooms and simultaneously addresses the broad issue of Hong Kong teacher’s multicultural competence in supporting the learning of ethnic minority students. Chapter 17, “Teacher Inclusive Practices in the Light of Changing Pedagogical Techniques in Higher Education” by Atieno Kili K’Odhiambo, looks at pedagogy from antiquity to the present by focusing on pedagogical principles of andragogy, heutagogy, and synergogy, and their influence on inclusive practices of education that empower both the learner and

teacher. The author provides some leeway for the teacher to be a facilitator and for the learner to discover knowledge, ensuring that each is a globalist. Chapter 18 “Aligning Pedagogical Practices with Inclusive and Reflective Practices to Improve Literacy among the *Orang Asli* (Indigenous People) in Malaysia” by Hariharan N. Krishnasamy advocates that students come into the classroom with various experiences, skills, worldviews, beliefs, attitudes, and ways of learning. The author argues that these differences have an influence on student engagement with literacy practices at school and learning outcomes. The chapter focuses on groups of indigenous primary school children who come into the classrooms with limited opportunities to engage with literacy in their immediate environment and affirms that teachers need to constantly review their pedagogical practices based on their students’ performance and engage actively in reflective practices.

Chapter 19, “Repositioning the Inclusive Perspectives in Globalized Schools through Advocacy Optimization of Reflective Practitioners” by Nena Padilla-Valdez, Rosna Awang-Hashim, and Eunice Miguel-Aclan, embraces the premise that practitioners are the prime reform advocates in the globalization movement within schools. The authors expose the accelerated pace of globalization when school quality and excellence are set as important norms of the global culture, rendering the local schools as ‘globalized’ academic settings. Chapter 20, “Teacher Professional Literacy Needs: Empowering Students from Minority or Less Privileged Groups” by Hariharan N. Krishnasamy argues that professional literacy is an important element of professional development among Association of Southeast Asian Nations (ASEAN) schoolteachers, especially in current times when there is a move toward a more egalitarian system of education. With the professional literacy focusing on the four processes associated with it – namely, listening, speaking, reading, and writing – and their integration in teacher professional development, the author assures that teachers can better understand students from less privileged or minority groups and help empower them with the appropriate literacy skills.

With the combination of chapters from prominent scholars around the world, especially in the field of teaching, learning, and inclusion, this book serves to assist new teachers in education and training, and their continuous professional development as well as enhance their knowledge. The chapters in this book contribute theoretically, conceptually, and empirically to the field of reflective and instructive practices. Therefore, the book can be used as a primary textbook in the area of psychology, method of teaching, and an introduction to teachers teaching at either an elementary or secondary level of education.

Ismail Hussein Amzat

Notes on contributors

Ismail Hussein Amzat obtained his bachelor's degree in Arabic language and literature from Al-Azhar University, Cairo, Egypt; his master's degree in education and educational administration from International Islamic University Malaysia; and his doctoral degree in education in educational management, planning, and policy from University Malaysia. He is a current senior visiting lecturer of Educational Management at the Universiti Utara Malaysia (Malaysian Northern University) and was previously a lecturer at different public and private universities and colleges, and a teacher at Islamic and international schools in Malaysia. He was also a visiting assistant professor at Sultan Qaboos University, Oman. He has vast experience in research on educational leadership and management and has published quite reasonable papers in many reputable journals indexed in Scopus and ISI on university management, school leadership, job satisfaction, and decision making. He is an editor of the book *Fast forwarding Higher Education Institutions for Global Challenges: Perspectives and Approaches* by Springer, 2016, and of the forthcoming book *Teacher Empowerment toward Professional Development and Practices: Perspectives across Borders* by Springer, 2017.

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Part 1

Reflective practice in the 21st century



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1 Reflective practices in the 21st century

Movement from 3Rs to 4Cs in the teaching profession

*Grace Chibiko Offorma and
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Introduction

Education is an instrument for national development and the success of all other sectors is dependent on the quality of the educational programs and the teachers who are the curricula implementers. “The degree and quality of participation in life of a society depend, to a large extent, on the degree and quality of education received by members of the society,” (Ocho, 2005, p.25). Quality education is determined by the quality of teachers. No nation can rise above the quality of her teachers (FRN, 2004). No teacher can offer what he or she does not have.

Today, education plays a lot of roles in globalization of the world and competitiveness in the market economy. The global emerging issues call for effective training and retraining of teachers who will implement educational programs. Therefore, attention should be focused on the quality as well as the quantity of teachers produced to implement the programs, as quality teachers may face the challenge of large class management. This may affect their effectiveness in the classroom. Teacher quality determines the quality of the products of the educational institutions. The present knowledge economy in which memorization is antiquated requires learners to understand complex concepts and work with them creatively to generate new ideas, theories, products, and knowledge. They should be able to evaluate what they read critically and communicate clearly, verbally and in writing, and grasp scientific, technological, and mathematical thinking. Learners should be able to integrate and use knowledge to solve problems and take responsibility of their continued lifelong learning. These call for changes in content, pedagogies, skills, and learning environment, thus making it imperative for teacher education to be re-engineered. Teacher education has to be transformed in a manner that the teachers will have the capacity to translate educational philosophies so as to achieve educational goals.

Philosophies are transformed into national goals and stepped down to objectives, which are only achievable in the classroom with the aid of effective teachers. Akintade and Eyengho (2007) believe that the teacher is a very critical human resource for effective implementation and attainment of educational policies and objectives at the practical level of the classroom. According to

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Kolawole, Alade and Kolawole (2007) and Okala and Ogum (2007), the teacher is in charge of translating national policies, goals and objectives, knowledge, skills, competencies, values, and attitudes needed for sustainable livelihood of the society into practical terms for the society to attain its dreams and aspirations. This implies that education plays a vital role in the development of the society, and the teacher is the key player in this regard.

Globally, teaching and learning in the classroom are becoming more problematic, complex, and sophisticated. Teachers experience some challenges associated with teaching and learning, especially with new emerging issues in knowledge, skills, technology, and dispositions of the learners. Complaints from stakeholders have often called for changes. The enactment of the ‘No Child Left Behind’ Act of 2015, for instance, is a policy in response to the UNESCO Convention against Discrimination in Education and other international human rights treaties that prohibit any exclusion from educational opportunities on the bases of socially ascribed or perceived differences, such as sex, ethnicity, language, religion, nationality, social origin, economic condition, ability, and inequalities existing in schools. Such policies often make administrators face extreme pressure to provide professional development for teachers to enhance their skills and knowledge base, and improve the teaching and learning environment to facilitate the teachers’ responsibilities and invariably, to promote students’ achievement. The teacher is the translator of educational policies and implementer of educational programs. Research has not relented in coming up with best practices in teaching and learning. One of such practices is the movement from 3Rs (reading, writing, and arithmetic) to 4Cs (critical thinking, collaboration, communication, and creativity) in the 21st-century classroom. These skills should be inculcated in the 21st-century teachers to facilitate production of functional members of the society.

The Sustainable Development Goal (SDG4) focuses on equitable and inclusive quality education and promotion of lifelong learning. The slogan is “leave no one behind.” Consequently, the new projections by UNESCO Institute for Statistics (2013) show that massive teacher shortage and incompetence will continue to deny and deprive millions of children the right to education. Such denials will hinder the children from acquiring problem-solving skills leading to lifelong education. To realize the SDG4, UNESCO called for massive investment in recruiting, supporting, and empowering teachers. Today, the global citizens are expected to communicate effectively and become economically competitive. These can only be attained through a well-planned and implemented educational programs. The process must accommodate every learner in the society. This implies that everyone must be given equal opportunity and equitably treated for the Post-2015 Development Agenda to be realized. Thus the 21st-century skills of critical thinking, communication, collaboration, and creativity must be integrated in teacher education programs for them to transfer the skills to the learners in the classroom.

The teacher is responsible for the whole learning process involving critical thinking, collaboration, communication, and creativity. Equity and quality in

education according to the World Education Forum (UNESCO, 2015) is the cornerstone of a transformative education agenda. The transformation can only occur in a learning environment where learners can access, and actively participate in quality learning activities. Most often teachers are left in a dilemma on what practices are suitable for the learners. A critical reflective stance toward teaching helps to avoid traps of demoralization and self-laceration. It provides enough energy and sense of purpose that have real effect on those we teach, how we teach, and possible remedies to be adopted. This chapter examines the concepts of reflective practices and three distinct models of reflective practices: movement from 3Rs to 4Cs. These encourage equity and effective curriculum delivery in the classroom.

Concept of reflective practices

The term reflective practices has been viewed from different perceptions. *The Oxford English Dictionary* (OED online) defines it from the philosophical sense as “the mode, operation, or faculty by which the mind has knowledge of itself and its operations, or by which it deals with ideas received from sensations and perceptions.” Reflection in the context of learning has been described as the intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understanding and appreciation. It may take place in isolation of others or in association with others (Boud, Keogh and Walker, 1985). Johns (2000, p.34) equally describes reflection as “a window through which the practitioner views and focuses self within the context of her own lived experiences . . . and work towards resolving the contradictions within her practice between what is desirable and actual practice.”

The *Dictionary of Nursing* exemplified the definitions by using care analogy associated with the nursing profession and thus described reflection as the care considerations of personal actions which involve the ability to review, analyze, and evaluate situations during and after events. The analogy of ‘care’ can also be an attribute in the teaching profession where the ultimate aim of a teacher is to make an impact on the life of a learner. The care of the teacher is different from that of the nurse; while the nurse attends to patients singly, the teacher attends to a group of learners at the same time (Quinn, 1998). To ensure that all the learners were accommodated, there must be a self-appraisal or review of daily classroom activities. The self-appraisal of activities that have transpired can be described as reflection. In support of this assumption, Boud et al. (1985), contend that reflection is a process of learning through and from experience, new insight of self and practice. The reflective practices are also seen as lifelong processes whereby, unless teachers develop the practice of critical reflection, they stay trapped in unexamined judgments, interpretations, assumptions, and expectations. Approaching teaching as a reflective practice involves fusing personal beliefs and values into a professional identity. Teachers must use the reflective practice to promote active participation of the classroom. Active practice has been found to be an invaluable strategy in the classroom as it presents the

learners with hands-on activities, which aid memory and enhance interest and motivation of the learners.

A reflective teacher as described by Schön (1983) is one who considers past experiences and feelings in building new understanding. The teacher automatically knows what to do based on previous experiences. He therefore defines reflective practices as critical processes in refining one's artistry and craft in a specific discipline. When a teacher examines the past and present actions, knowledge is generated to inform the future. Loughran (2002) describes reflective practices as crafted practices that carry very specific meanings and associated actions. Crafted practice is like a design where structures have been put in place, they are identifiable, sequenced, and systematically followed. They form the foundation on which skills are developed and acquired. Based on the foregoing, a reflective teacher is a teacher that observes classroom procedures; reflects on the teaching and learning problems, plans, and implements changes; and observes the effects. These skills should be inculcated in the 21st-century teachers to equip them for effective classroom delivery.

Types of teacher reflective practices

Three major types of reflective practices are presented here. They are reflection in action, reflection on action, and reflection for action. For Schön (1983), the first two terminologies distinguish reflection during an activity (reflection in action) and reflection after an activity (reflection on action). They can be regarded as the while and after (post) lesson activities of the teacher. Schön maintains that when someone reflects in action, he becomes a researcher in the practice context. Teachers may reflect on what they have done to discover how an action has contributed to the unexpected outcomes. A teacher can help a student who is not grasping a concept during the lesson by referring to the previous experiences and other sources, to offer a solution. Reflection on action is based on the limitations of reflection in action. A teacher can reflect on a particular issue after the lesson has taken place in order to make necessary changes that will improve future lessons.

Reflection for action is another form of reflective practice. Through the examination of the past and present actions, knowledge is generated to inform future actions. For example, where a problem is identified, the desired objectives are determined, strategies and activities are mapped out, knowledge is shared with fellow practitioners, and comparison is made between the previous steps and the present steps to identify the gaps for improvements.

Lots of questions have, however, been raised on the practicality of the reflection in action. How reflective is the active moment where the teacher is engaged with the children in his or her charge? Schön responds, "Both ordinary people and professional practitioners often think about what they are doing, sometimes even while doing it." He suggests that reflections are concealed; they are inert while the actions from the reflections are overt. If the teacher was not reflecting, there may be no spontaneous insight that may lead to modifications in

actions during or after the lesson. The purpose of reflection is therefore to bring our reasoning processes and behavior patterns to the surface and make them explicit. The prepositions, 'in action,' 'on action,' and 'for action' are what distinguish the categories of reflection. However, they suggest the need to think along and take prompt actions as situation arises. It also calls for a review of what has transpired in a lesson. These skills should be presented to teacher trainees for transfer to their pedagogical practices.

Teacher reflective practices in professional developments

Teacher training in the use of reflective practices has been advocated for attainment of the changing demands and aspirations of the society. If the goals of lifelong learning must be achieved, then the teachers are in the best position to realize them, if they are adequately trained. Bearing in mind Laurillard's (2002) observation of children being bored with traditional methods of teaching and considering the fact that learners need to be actively engaged in the learning processes, the 21st-century pre-service and in-service teachers must be engaged in reflective practices as part of professional development program. However, it has to start with the teacher educators who must be reflective practitioners themselves, because one cannot give what one does not have. They must practice what they teach by ensuring that colleagues share ideas with one another on reflective practices, students share ideas on reflective practices with other students, and coaching involving teachers and students are used in the classroom.

Teacher educators should engage in instructions that use metacognitive skills. Through these, ideas of self-regulation, self-monitoring, and self-assessment, will be inculcated in the learners. Students who have acquired metacognitive skills can compensate for low ability and insufficient information. Video recordings should be integrated in teaching/learning processes, especially in micro-teaching lessons where pre-service teachers or intern teachers and their peers can do an evaluation of the teaching processes and skills based on the video recordings. The feedback they receive from the practice helps them to improve on the processes and skills. Questions can be generated that will help to improve the lessons in future.

The advent of information and communication technology (ICT) has, however, modified this approach based on the psychological theories of the 21st century, which advocate active participation of the learner, and the use of instructional strategies that make lessons interactive, collaborative, creative, and communicative. These are reflected in the learner-centered approach. Any serving teacher must have observed that his/her learners are more wired than him/her in the use of ICT. The 21st-century learners are termed digital natives because of the speed with which they imbibe the skills of new technologies. These learners are collaborative, networking, and communicators, adaptive and creative, information, communication, and technology savvy, carried away by media in its varied appearances; they require immediate and instant gratification.

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They like choice and to be in control; they are group-oriented and social. They think differently. These constitute new demands in educational programs and pedagogical approaches and strategies. The European Communication Commission in 2007 pointed out that changes in education and the society place new demands on the teaching profession and identified the basic roles of the teacher to include

- identifying the specific needs of each individual learner, and responding to them by deploying a wide range of teaching strategies;
- supporting development of young people into full autonomous lifelong learners;
- helping young people to acquire the competences listed in the European Reference Framework of Key Competences;
- working in multicultural settings (including an understanding of the value of diversity, and respect for differences); and
- working in close collaboration with colleagues, parents, and wider community.

(p.13)

All these when put in place will increase participation and improve educational opportunities for all learners. However, the teacher needs to be acquainted with the necessary knowledge, skills, values, and attitudes required to accommodate the learners and their dispositions in the classroom. Twenty-first-century skills involve the knowledge, skills, attitudes, values, and dispositions people need to make positive contributions to the development of the society. Voogt and Robin (2010) compared the conceptualizations of different frameworks of the 21st-century skills needed to enhance teaching skills and promote learning. They reported that these frameworks focus on learning and interactive skills, which involve critical thinking and problem solving, creativity, and innovation and communication (in mother tongue, and foreign languages) and collaboration, learning to learn, teamwork, living in the world, social and civic competences, and digital age literacy. Teachers need to possess these skills to be able to jettison the traditional 3Rs.

Movement from 3Rs to 4Cs

Reading, writing, and arithmetic were mainly taught to the learners through the rote learning teaching method. Teaching practice involving 3Rs implies the traditional methods of teaching, which involves theoretical presentation of knowledge to the learners. The learners taught with this method commit to memory knowledge presented to them. The classroom is dull, passive, and uninteresting. Learning is not in depth, and short-lived. The traditional method is teacher-oriented. The teacher is the key player dominating the class, dishing out information to the learners while they remain inactive. The 21st-century teaching practice emphasizes hands-on methods and techniques. With the

emerging technologies, the teaching profession has evolved from teacher-centered classroom and lecture-based instruction to student – centered, interactive learning environment, as posited by Leye (2007) and Olatokun (2007). There is a paradigm shift from teacher-centered to learner-centered classroom activities. This has changed the role of the teacher from telling to facilitator of learning.

The 4Cs are 21st-century skills introduced in the classroom and driven by newer technologies. Critical thinking, collaboration, communication, and creativity are the focus of any good teaching today. Development of the 4Cs demands the application of ICT in the teaching-learning sessions. ICT is a basic requirement for teaching and learning in the 21st century. In education, ICT has potentials to revolutionize pedagogy, access to quality education, and improvement of educational management (Offorma, 2015). ICT is an innovation in communication and the driver of curriculum implementation. It is a veritable tool for teachers, who are curriculum implementers. The use of the 4Cs is based on Vygotsky's (1978) theories of constructivism and socialization, which allows the learner to experience the environment through problem-solving, inquiry learning, and socialization processes. These are facilitated by application of ICT in the classroom.

Constructivism is a theory of knowledge that humans generate knowledge and meaning from interactions between their ideas and their experiences. It states that learners construct knowledge out of their experiences. The idea is that when new information is combined with the exiting knowledge and experience, learners construct their own learning. It recognizes the learner's ownership of ideas, which are negotiated in the classroom. This implies that the teacher is not meant to change the learners' ideas, but to support and enable them to actively change their own ideas in the light of available evidence. Heinich, Molenda, Russel, and Smaldino (2002) indicate that learners create their own interpretations of the information. They share the learning experiences within their own experiences. So the role of the teacher is redefined from that of a giver of information (as in the 3Rs), to that of organizer of necessary learning experiences or a coach who provides guidance which gradually decreases as learners become more proficient (as in the 4Cs).

In constructivist learning environment, learning activities are designed to develop skills. The skills are characterized by active participation, inquiry, problem solving, and collaboration. These activities are embedded in the 4Cs. The teacher is a guide, facilitator, and co-explorer who encourages the learners to question, challenge, and formulate their own ideas, opinions, and conclusions. The teacher facilitates learning by providing authentic scenarios and problems (Dick, Carey, and Carey, 2005). A constructive teacher and learners in the classroom exhibit a number of discernible qualities distinctly different from a traditional or direct instruction classroom. The teacher is flexible, creative, and applies group and individual activities. The classroom environment is democratic; the activities are interactive and learner-centered. The classroom is structured so that learners are immersed in experiences within which they may engage in making meaning and

enquiry. They are active, imaginative, and reflective. The activities are interactive and a lot of incentives are given to motivate the learners. The aim is to produce a democratic classroom environment that provides meaningful learning experiences for autonomous learners.

Movement from 3Rs to 4Cs requires new learning environment with appropriate facilities. The new learning environment that encourages student-centered interactive learning reflects the 21st-century teaching and learning that incorporate the 4Cs. The 4Cs focus on today's youth who are proficient communicators, creators, critical thinkers, and collaborators to compete in global society. Online environment is an example of a new teaching and learning environment, which incorporates the 4Cs in teaching learning with the teacher as a facilitator. New learning style determines the type of learning environment, such environments include simulated environment, immersive environment, and social learning, where less emphasis is laid on factual knowledge but more on ability to think critically and create information for solving complex problems.

New teaching and learning environment involves the coexistence of both the real and virtual learning spaces (Brown and Lippincott, 2003). According to Poe and Stassan (2002) online involves faculty delivered instruction through the Internet using either real time- (synchronous) or anytime anywhere (asynchronous) modes of teaching. The two-way parallel processes within an online environment: the asynchronous mode is mainly used in distance learning while the synchronous mode can be used in large theater halls with the use of clickers.

Mobile devices in an online environment can be used to record and to listen to audio at any time and encourage spontaneous reactions posits Kukulka-Hulme (2009). Successful online teaching according to Gunawardena and Zittle (1995) promotes cognitive strategies, learner centeredness, interactivity, collaborative learning, and social presence. Students are empowered to take control of their own learning (Poyatos-Matas and Allan, 2005). Students select and transform information, construct hypotheses, and make decisions based on cognitive processes. These attributes according to Greyling and Wenizel (2007) reduce and eliminate the emotional constraints of anonymity experienced in a large class setting. The use of the 4Cs in problem solving involves teamwork and cooperation, which can be achieved using wikis, blogs, and Web 2.0. that enable strangers separated in time and space to collaborate. The collaboration is enhanced with the strangers' communicative competencies, which are achieved through articulated ideas expressed in speaking or writing. The use of the spoken or written communication is given immediate feedback that helps one to realize if the contributed ideas are acceptable or not. Lia Voerman (2012) sees feedback as information regarding one's performance or understanding, given by an agent, teacher, peer, computer, book, parent, self, experience. Pauli (2010) writes that feedback can be on the task, feedback on the task process, feedback on self-regulation

and feedback on self. Teachers' generous application of feedback is recommended, as it is a motivational factor.

Practical implication

Movement from 3Rs to 4Cs has implications for teacher production. Since the 3Rs aim at producing learners who are theoretical and cannot transfer the gained knowledge to solve problems, teacher education programs should be reviewed to integrate the 4Cs. The pre-service teachers will be exposed to the new skills, while the serving teachers will be retrained in the skills, through workshops or in-service training. The teachers must be ICT compliant to be able to apply the 4Cs in the classroom and create opportunity for every learner, irrespective of their individual differences to be accommodated.

Conclusion

This chapter has discussed reflective practices by explaining the concept of reflective practices and types of reflection. Teacher reflective practices that can ensure production of functional 21st-century globally competitive citizens are also presented. The 3Rs and 4Cs are presented, and the kind of instructional effects each has on the learner are discussed. The application of 4Cs in the classroom requires reformation and revamping of teacher education programs and retraining of teachers to expose them to the 21st-century skills required to prepare the learners to imbibe the 4Cs (critical thinking, collaboration, communication, and creativity). The teacher is the key player in the implementation of educational programs and must be equitably armed with what it takes to be an effective 21st-century teacher. The teachers' classroom interactions are paramount in the realization of the goals of reflective practices. He/she must expose the learners to hands-on activities to create room for their active participation. Learner-friendly classroom environment is a sine qua non in application of reflective practices. The teacher must be flexible and should endeavor to accommodate all the learners. The teacher must be computer literate to be able to guide the learners effectively in the use of new technology to enhance their collaboration and learner autonomy, which play important roles in communication. Communication may be verbal or written.

Therefore, integration of reflective practices in teacher education programs for professional development is a novelty that helps teachers to be facilitators of learning rather than givers of information. Reflective practices enhance teacher effectiveness as it helps the teacher to accommodate all categories of learners in the classroom. It involves coaching the learners, which exposes the challenges of individual learners to the teacher for his/her specific attention. By so doing, all the learners are carried along. It is also important to note that policies should be formulated by countries to give impetus to the practice and to guide the realization of SDGs 'Leave No Child Behind' slogan. The policies

have to override cultural issues that do not promote quality, equity, inclusiveness, and lifelong learning. It is when the learner is adequately motivated and transformed through education that social and emotional barriers will be eradicated. All these promote inclusiveness. The SDGs aim at making livelihood sustainable and education is the sole instrument through which this can be achieved. Teacher education must be re-engineered and teachers retrained and groomed in the right 21st-century knowledge, skills, values and dispositions, and pedagogies for them to effectively implement the curriculum contents and thus attain inclusiveness and equitable quality education that will produce functional global citizens.

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